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REMARKS

Dealing first with the initial objection to claims 1 and 20 on the grounds that they are indefinite, amended claim 1 submitted herewith, in addition to being amended to more clearly distinguish over the cited references, has been amended in the final portion thereof by replacing "said inlet opening" with -- **an Inlet opening** --. Thus, this feature has been introduced in the claim in the proper manner, that is in the indefinite sense. With respect to dependent claim 20, this claim has now been made dependent upon claim 19. There is now a clear antecedent for the term "said handles".

Before dealing with the lack of novelty rejections under 35 U.S.C. §102, Applicant's attorneys would first like to explain the changes that have been made to the description. Firstly, it should be noted that no new matter has been introduced into the description by these amendments. The statement of invention that appears in paragraph 10 has simply been amended so that this statement will correspond closely to amended method claim 21. All of the method steps and features recited in this paragraph are clearly described in the original specification and illustrated in the drawings of this application including, in particular, Figures 1 and 3.

Paragraph 17 of the description has been amended to identify and refer to the water-containing chamber 23 that is formed by the catch basin. It is a well known fact in the sewer and road construction industry that catch basins do form water-containing chambers, these chambers being used to feed water to a storm sewer or other form of drain pipe. Moreover, the feature of the water-containing chamber is clearly illustrated in the drawings of this application, including Figures 1, 2 and 5. One reason for this amendment is to provide wording in the description that supports wording now used in amended claim 1 which refers to a water-containing chamber formed in the catch basin near the end of the claim.

With respect to the amendments to the detailed description found in paragraphs 31 and 33, these amendments are being made to clear up a discrepancy between the written text and the trap assembly as shown in the drawings of the application and to delete possibly misleading description in these paragraphs. As clearly shown in Figures 3 and 6, the mounting ring 92 including both

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the first portion 92a and the second portion 92b, are positioned within the pipe connector 82 which forms outlet opening 38. In particular, the second portion 92b which extends radially-outwardly relative to the first portion 92a engages the inner side of the second connector portion 82b and it does not engage an inner side of the first wall 36. In other words, there is no radially-extending surface of the second portion 92b of the mounting ring which engages the inner side 58 of the first wall 36 and accordingly this incorrect passage has been removed from paragraph 33. Also, as will be clear from the figures, it is the second portion 92b (not the first portion 92a) of the mounting ring which is dimensioned to frictionally fit within the cylindrical pipe connector 82. On the same point, it is noted that original dependent claim 17 appears to incorrectly describe the mounting member and the manner in which it is mounted in the trap member and amended claim 17 has been revised so that it now correctly describes the assembly (as clearly illustrated in the original drawings of this application). Again, it is respectfully submitted that no new matter has been introduced into the specification by these changes.

Turning now to the rejection of method claim 21 on grounds of anticipation in view of the Schaier reference, reconsideration of this rejection is respectfully requested in view of the amendments that have now been made to claim 21. In particular, claim 21 now includes a step of providing a trap that has an outer trap member having a first wall and an outlet opening formed in this first wall, an inner trap member releasably engageable with the outer trap member and having a second wall defining an inlet opening, and a filter member having an open end and an opposite closed end. In addition, this trap must now be mounted in the side wall opening so that the outer trap member is attached to the outlet pipe. Finally, the claim now makes it clear that the open end of the filter member is releasably coupled to the inner surface of the outer trap member downstream of the sidewall opening.

In U.S. Patent No. 4,935,132 to Schaier, there is admittedly a drain pipe filter 50 in the form of a wire cage having rims at opposite ends thereof. The open-ended filter is mounted in a so-called drain pipe 36 which includes a horizontally extending cross-pipe 43 and a downwardly extending drop pipe 44. The drain pipe extends

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through the wall of a storm drain 30 which appears to be connected to a larger concrete drain pipe. Note that water is intended to enter through the bottom opening 48 and it then passes through the filter 50 before exiting through the opening 47. A hinged cap 51 is used to cover the open end of the drain pipe at the end furthest from the wall 30.

It will be seen from this review that amended claim 21 distinguishes over this reference by reciting the following distinguishing features:

- (1) An inner trap member releasably engageable with the outer trap member and having a second wall defining an inlet opening (The inlet opening 48 in the reference is simply defined by the drop pipe 44);
- (2) The outer trap member must be attached to the outlet pipe (In the reference, the only feature that is attached to the main drain pipe is the wall 30);
- (3) Finally, the filter member in claim 21 has a closed end and its open end must be releasably coupled to an inner surface of the outer trap member downstream of the sidewall opening (In the reference, the filter member 50 is open at both ends and is not downstream of the sidewall opening in the wall 30 but in fact the major portion of the filter is upstream of the sidewall opening since in the reference the water enters through the bottom opening 48 and exits through opening 47).

In view of these numerous differences, it will be readily apparent to the Examiner that amended claim 21 does distinguish over the teachings of Schaier and does so in a patentable manner.

Turning now to the second objection to claim 21 on the grounds that it either lacks novelty in view of or is obvious in view of the teachings of U.S. Patent No. 6,358,405 to Leahy, reconsideration of this objection is respectfully requested. In fact, for reasons explained hereinafter, the so called pollutant interceptor of Leahy could not be used to carry out the method of claim 21 which is for capturing matter exiting from a catch basin into an outlet pipe. It should be noted here that catch basins are for the most part mounted below ground as are the drain pipes or storm pipes to which they are connected. The below ground placement of a catch basin is

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In fact illustrated in Figure 1 of the drawings. This location of the catch basin is, of course, required in order to permit them to catch run off water from a road or other ground area, this water draining through openings normally formed in the top of the catch basin. As will be clear from the following explanation, the Leahy device clearly is not designed to be used in this environment and clearly cannot be used in conjunction with a catch basin, at least not in the manner required by method claim 21.

The Leahy interceptor includes a pipe section 12 which can be fitted over, attached to or positioned near the end of a pipe or drain outlet (see column 4 at lines 19 to 22). The interceptor includes a net bag 14 with an open end at 15 that is releasably attached to the exterior of the pipe section. It is, in fact, attached by a continuous loop of cable 16 which is looped through the end of the bag. As shown in Figure 1, the cable extends about the exterior of the pipe section and it can be held tightly around the pipe section in several different ways as explained in the specification. According to one of these methods, the ends of the cable extend between a pair of pulleys 22 and they are connected to a chain link section which is looped around a pivot arm 26 that projects outwardly from the side of the pipe section 12. The bag is further secured by outwardly flared lips 28, 29 at the adjacent end of the pipe section. There are various mechanisms that can be used to release the pivot arm 26. In the version of Figures 1 and 2, there is a vertical riser pipe that extends upwardly from the pipe section and is in fluid communication with its interior. This riser pipe forms a float chamber containing a float 32 that can move upwardly or downwardly. This arrangement provides a type of automatic release mechanism which will permit the netting to be released when a predetermined amount of solid matter has been intercepted by the netting. The clearly apparent difficulty with this arrangement is that the mechanism for attaching the netting to the pipe section 12 will not work in an underground setting, that is at the outlet opening formed in a catch basin. Clearly, the ground around any catch basin would prevent the cable release mechanism from working as intended.

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From the above review, it will be seen that amended claim 21 patentably distinguishes over the teachings of Leahy by reciting the following distinguishing requirements:

- (1) Firstly, the method must be one which captures matter entrained in drainage water exiting from a catch basin into an outlet pipe through a side wall opening in the catch basin (For the aforementioned reasons, it is submitted that the interceptor of Leahy could not have been intended to accomplish such a method as it could not work in the intended manner underground);
- (2) The trap must also have an inner trap member releasably engaged with the outer trap member and having a second wall (There is no such inner trap member in Leahy -- Note that the riser is for holding a float and it is permanently attached to pipe section 12);
- (3) The trap must be mounted in the side wall opening of a catch basin so that the outer trap member is attached to the outlet pipe (As already explained, there is clearly no intention in Leahy to mount the pipe section 12 in the side wall opening of a catch basin since the described interceptor would not work in this environment); and
- (4) Finally, it will be noted that filter member must be releasably coupled to an inner surface of the outer trap member downstream of the side wall opening (Clearly, in the U.S. patent, the netting 14 is attached to the outer surface of the pipe section 12.

For all of these reasons, it is submitted that amended claim 21 is clearly and patentably distinguishable over the teachings of Leahy and is in condition for allowance.

Turning now to the rejection of apparatus claims 1 to 16 on the grounds of obviousness in view of the combination of applicant's prior U.S. Patent No. 6,132,603 and the above discussed Schaier and Leahy references, reconsideration of this objection is respectfully requested in light of the changes that have now been made to claims 1 and 4, the latter having been rewritten as an independent claim. The Examiner concedes that the primary '603 reference does not disclose the use of the filter assembly as required by claim 1 but the Examiner has stated that each of the Schaier and Leahy references overcome this deficiency by their teachings of filters designed to trap solid or other matter in a drain pipe system. However, it is

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respectfully submitted that even if either of these secondary references were combined with the teachings of the '603 patent, the resulting combination would still not be the assembly for mounting in an opening in a catch basin side wall as now required by claim 1. In particular, neither the primary '603 patent nor Schaier teaches an assembly for mounting in a side wall opening of a catch basin having the following distinctive features:

- (1) The filter assembly must include a filter bag made to capture matter entrained in drainage water with the open end of the bag being connected to the mounting ring (In Schaier, the filter 50 is a cylindrical wire cage 52 with a rim at each of its two open ends);
- (2) The mounting ring of the filter assembly must be releasably attachable to one of the trap members, each of which must include a wall (In the reference, neither rim of the filter is releasably attached to a trap member that has a wall in the sense of the present invention);
- (3) The filter assembly must be positioned outside of a water-containing chamber found in the catch basin and the filter bag must be disposed downstream of the outlet opening when the assembly is assembled and being used (As indicated, the filter in Schaier is clearly not intended to be located outside of the chamber of a catch basin but, if anything, would be located inside the chamber of a catch basin and, furthermore, the filter in Schaier is not disposed downstream of the outlet opening but rather is upstream from the opening 47);

These differences are important and contribute to the advantages gained with the present invention. As explained in the initial portion of the description in this application (see paragraph 11), one advantage of the present assembly is that it permits the catch basin to be easily cleaned using a conventional vacuum truck. The hose of the vacuum truck can be simply inserted into the catch basin to suck up sediment, without fear of damaging the filter assembly. This appears not to be the case with the filter arrangement proposed by Schaier where it appears that the drain pipe containing the filter is on the inner side of the wall 30 (since the water is entering through the opening 48 and exiting through the opening 47 into the pipe on the right side of Figure 3). Accordingly, in view of the number of distinguishing features as set out above and the advantages that can be gained with

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the arrangement claimed in claim 1, it is respectfully submitted that claim 1 is allowable over the combination of the '603 patent and U.S. Patent 4,935,132.

It is also respectfully submitted that it would not be obvious to combine the teachings of the '603 patent with those of Leahy in the manner proposed by the Examiner. Firstly, as explained above, it is submitted that the Leahy interceptor would not work in the intended manner at a sidewall opening formed in a catch basin that normally is mounted underground. In fact, it appears that the Leahy device is clearly intended for use on a drain pipe that is positioned above ground and that does not extend from the normal form of catch basin. Furthermore, even if it were obvious to combine the teachings of these two U.S. patents in the manner proposed by the Examiner, which is not admitted by specifically denied, it is submitted that the resulting combination would still not be the assembly required by amended claim 1. In particular, the assembly of claim 1 distinguishes over this combination by reciting the following important features:

- (1) The filter assembly must be attached to a first or second trap member which must have a wall (In Leahy, the filter assembly is only connected to a pipe section which forms an opening);
- (2) The filter assembly must include a mounting ring with the open portion of the filter bag connected to this mounting ring (In Leahy, the netting 14 is simply held in place by a flexible cable 16 which cannot be considered a mounting ring);
- (3) The mounting ring must be releasably attachable to one of the trap members so that the mounting ring is inside the assembly (In Leahy, the mounting device for the netting is located outside of the pipe section 12);
- (4) Finally, the end of claim 1 requires that the filter bag in use be disposed "downstream of said outlet opening" (As indicated, the netting 14 in Leahy is not mounted in a manner which would permit it to be mounted to a trap member that in turn is mounted in the side wall opening of a catch basin.

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Accordingly, in view of these several important differences, it is submitted that amended claim 1 does patentably distinguish over the combination of the primary '603 patent and the Leahy patent.

With respect to dependent claims 2 and 3, it is submitted that these claims distinguish over the cited combination of references for the same reasons as stated for claim 1 above.

Turning to independent claim 4, in addition to including all of the features of original claims 1 and 4, this claim also specifies that the filter assembly has a mounting ring and a filter member having an open end that is connected to the mounting ring and an opposite closed end. Claim 4 further specifies that the mounting ring is releasably attachable to the first trap member so that the mounting ring is inside the assembly during use of the filter assembly.

It will thus be appreciated by the Examiner that amended claim 4 distinguishes over the combination of the '603 patent and the Schaier patent by reciting the following important distinguishing features:

- (1) The first trap member of the assembly which forms the outlet opening must be "sealingly attachable to an outlet pipe with the outlet opening in communication with the interior of the pipe" (In Schaier, even if the cross-pipe 43 is considered a first trap member, it will be seen that at its outlet end, there appears to be no seal formed between this end at the opening 47 and the pipe that is attached to the wall 30);
- (2) The filter member must have an opposite closed end and its open end must be connected to the mounting ring (In Schaier, the filter screen is open at both ends);
- (3) It would be by no means clear to one skilled in the art how the cylindrical, open ended wire cage 52 in Schaier could possibly be mounted in the trap taught in the '603 patent and thus one skilled in the art of catch basins and drain pipes would not be led readily to combining these references, particularly in view of the fact that the drain pipe filter arrangement in Schaier, if used in a catch basin, would project well into the interior chamber of the catch basin where it can be damaged when the catch basin is cleaned.

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For all of the aforementioned reasons, it is submitted that it would not be obvious to combine the '603 patent and the Schaler patent in the manner proposed by the Examiner to construct the assembly of amended claim 4 and therefore amended claim 4 should be allowed over this combination as well.

Turning now to the rejection of claims 1 to 3 and 6 to 16 on grounds of obviousness in view of the primary reference to Mokrzycki et al. and either the Harms et al. patent or the Nurse Jr. patent, it is respectfully submitted that the claims as amended and, in particular, amended claim 1, do patentably distinguish over either combination of references. The Examiner has relied upon the Harms et al. reference (U.S. Patent No. 5,980,740) for its teaching of a filtration device in a storm drain collection box. The collection box which is installed below ground level collects water through an inlet mouth 21 which may be next to a paved road. The filtration device comprises a helical coil frame 33 which can be constructed from a coiled steel strap. As shown in Figure 3, this frame terminates at one end in a circular exit loop 34 and at the other end in an inlet loop. The frame is intended to be mounted within the confines of the chamber formed by the collection box as clearly seen in Figure 1. The exit loop completely surrounds the collection box outlet opening 23 which connects to an outlet pipe. A filter sock 51 is positioned around the entire length of the coil frame and has an open exit end 52 which is tightly secured around the exit loop 34 of the frame. It also has an open inlet end 54 which can be folded over and sewn to yield an encircling pocket 55 within which is positioned a cord. The open inlet end of the frame and the sock are suspended in the illustrated position by means of chains that are connected to the ceiling of the collection box.

It will be seen from this review of Harms et al., that even if the teachings of this reference were combined with those of the primary reference as proposed by the Examiner, the resulting combination would not be that required by claim 1, as amended. In particular, neither of these two references teaches the following distinguishing features:

- (1) A filter bag having an open end portion connected to the mounting ring (In the reference, the filter material is in the form of a sock or sleeve that is open at both ends);

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- (2) The mounting ring must be releasably attachable to a trap member so that it is inside the assembly for mounting in a side wall opening (In the reference, if the exit loop is considered a mounting ring, it is simply located inside the filter sock and not inside the trap assembly in the sense of this invention and if the inlet loop is considered the mounting ring, this loop 35 again is simply within the sock);
- (3) The filter assembly in use must be positioned outside of a water containing chamber formed in the catch basin (Clearly, in Harms et al., the filter assembly is located completely within the water-containing chamber);
- (4) The filter bag must be disposed downstream of the outlet opening (In the reference, the filter sleeve is located upstream of the outlet opening).

The Examiner will appreciate that these differences are important, particularly in view of the advantages which are obtained from the present assembly and which are explained in paragraph 11 of the description. In particular, it is clear that with the Harms et al. structure, the hose of a vacuum could not be simply inserted into the collection box without fear of damaging the filter assembly. It is clear that the filter arrangement taught by Harms et al. can readily be damaged by the hose of a vacuum truck during cleaning.

Turning now to the objection to claim 1 based on the cited combination of the primary reference and Nurse Jr., it is respectfully submitted that this combination suffers from the same deficiencies as the aforementioned combination, although the filter device in Nurse Jr. is somewhat different.

Although Nurse Jr. teaches several different types of filter devices, they operate in substantially the same manner and it therefore believed that a discussion of the first embodiment will be sufficient for present purposes. The filter device in this patent is intended to be mounted within a tank such as a septic tank 1 shown in Figure 1. In other words, this filter device is intended for sewage treatment applications with the filtered liquid exiting from the tank through an outlet 2. The filter device shown in Figure 3, for example, has a plurality of bottom openings 32 disposed around the circumference of a cylindrical casing 30 which is an extension

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of a longer casing 31. The actual filter is located within the casing 31 and it removes particulates from liquid as it flows upward through the casing 31. The inner tubular element 11 of the filter is formed with numerous slots 12 or slots 14. A flow through inlet is located in the bottom of the tubular filter.

Again, it will be seen from this review that even if the primary reference and the teachings of Nurse Jr. are combined as proposed by the Examiner, the resulting combination would still not be the assembly required by amended claim 1. In particular, amended claim 1 recites the following distinguishing features that are not found in either reference:

- (1) A filter assembly that includes both a mounting ring and a filter bag with an open end portion connected to the mounting ring (In Nurse Jr., the filter is simply a tubular element with numerous holes formed therein, this element being made of rigid plastic, for example);
- (2) The filter assembly must be positioned outside of the water-containing chamber formed in the catch basin (Clearly, in the reference, the filter assembly is intended to be mounted within a water containing chamber – see Figure 1); and
- (3) The filter bag must be disposed downstream of the outlet opening (In the Nurse Jr. reference, the tubular filter element is located within the tank and thus is not downstream of the outlet opening located at 2).

In light of these several important distinguishing features, the importance of which has already been explained above, it is respectfully submitted that amended claim 1 also distinguishes over the combination of these two references.

With respect to amended independent claim 4 which incorporates the subject matter of original claim 4, it is noted that the Examiner did not reject original claim 4 on the basis of the combination of the primary reference and either Harms et al. or Nurse Jr. Accordingly, it submitted that claim 4, as amended, is in condition for allowance.

With respect to dependent claim 6, it is submitted that this claim is allowable over the cited combination of prior art references for the same reasons as stated for claim 1. With respect to dependent claims 7 to 13, it is respectfully submitted that these claims are patentable over the cited combination of references for the same reasons as stated for amended claim 4. With respect to dependent claims 14 to 16, it is submitted that

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these claims are allowable over the cited combination of references for the same reasons as stated above for claim 1.

With respect to revised independent claim 17, it is firstly noted that this incorporates the subject matter of original claim 4 as well as some of the features recited in original claim 17. As the Examiner did indicate that original claim 4 was allowable over the combination of the primary reference and either Harms et al. or Nurse Jr., it is submitted that claim 17 should also be allowed over these particular combinations of references.

With respect to the obviousness rejection based on the combination of the primary reference and Schaier, again, even if these two references were combined as proposed, the resulting combination would not be the inventive combination now required by amended claim 17. In particular, neither of these prior art references discloses the following distinguishing features set out in claim 17:

- (1) A mounting member to which an open end of a filter member is attached that has a first portion and a second portion that extends radially outwardly relative to the first portion (In Schaier, the filter 50 is simply mounted by means of two simple and separated rims 54 and 58, neither of which can be said to have two portions as required);
- (2) Both the first and second portions of the mounting ring must be sized and shaped to be insertable in the outlet opening (In the reference, there is only the simple second rim 58 that is in the outlet opening);
- (3) The second portion of the mounting ring must be engageable with an inner surface of the first trap member.
- (4) The filter member must have a closed opposite end.

In addition to these differences, it is not seen how it would be obvious to one skilled in the drain equipment art to combine the tubular and elongate filter member of Schaier in the structure of the primary reference, particularly since the latter is designed to be mounted in the wall of a catch basin and has no apparent means to hold a filter such as that taught by Schaier in the required manner.

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Amended dependent claim 18 further distinguishes over the cited combination of the primary reference and Schaier by its requirement that the filter member be in the form of a bag. Clearly, the filter member in Schaier is not a bag and it cannot be said to be mounted at either end by means of a mounting rim having first and second portions.

Finally, with respect to the combination of the primary reference and Leahy, it is submitted that amended claim 17 also patentably distinguishes over this combination. Again, even if it were obvious to combine these two references as proposed by the Examiner, which is not admitted, the resulting combination would not have the distinguishing features now recited in claim 17. For example, claim 17 now requires a mounting member for the filter member which has a first portion and a second portion extending radially outwardly relative to the first portion with both the first and second portions being sized and shaped to be insertable into the outlet opening. In Leahy, the netting is simply mounted to the exterior of the simple drain pipe 12. It is clear from the text at column 4 of U.S. Patent 6,358,405 that the pipe section 12 is not intended to be fitted inside an outlet opening (nor would this seem to be possible). The written text at lines 19 to 22 in column 4 indicates that the pipe section 12 "can be fitted over, attached to or positioned near the end of a pipe, tube, drain outlet or the like". The Examiner will appreciate that fitting the pipe section 12 inside an outlet opening would appear to be impossible in view of the items mounted on the exterior of the pipe section 12 such as the pulleys 22 and the riser pipe forming float chamber 31.

A further distinguishing feature recited at the end of claim 17 is the requirement that the second portion of the mounting ring be engageable "with an inner surface of the first trap member when the first portion and second portions are inserted into the outlet opening. In the Leahy reference, the pipe section 12 appears to be engaged with an outer surface of a drain pipe.

For all of these reasons, it is submitted that amended claim 17, which is now an independent claim, and the claims dependent thereon are in condition for allowance.

Finally, with respect to the alleged defect in the declaration, the applicant has decided to drop its claim to convention priority since it would appear to have no benefit to the applicant, the Canadian application having been filed only shortly before the present U.S. application. In view of the fact that the priority claim is being dropped, it is

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believed by applicant's attorney that there is no need to submit a new declaration for this application.

In view of the above amendments and submissions, reconsideration and allowance of this application are respectfully requested.

Please charge the one month extension of time fee of \$55.00 and the extra independent claim fee to Deposit Account No. 50-1088. Please charge any shortage in fees due in connection with the filing of this paper to deposit account number 50-1088 and please credit any excess fees to such account.

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